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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,401	10/05/2000	Seinosuke Mizuno	198224USOX	1884
22850	7590	12/29/2003		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER DICUS, TAMRA	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,401

Applicant(s)

MIZUNO ET AL.

Examiner

Tamra L. Dicus

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

The rejections are withdrawn due to Applicant's arguments. Cancellation of claims 1-19 are acknowledged.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,480,066 to Davis et al. in view of USPN 4,891,267 to Takahashi et al.
3. Davis teaches a rubber composition having adhesion of rubber to reinforcing metal such as brass-plated wire (col. 3, lines 24-55). At col. 3, lines 32-36, the rubber is vulcanized (equivalent to a heat treated adhesive). Davis teaches the adhesive comprising chlorinated rubber and chlorosulfonated polyethylene rubber to provide flexible and strong thermally stable bonds between rubber and metal. See col. 3, line 52-col. 4, line 11. A blend of chlorinated rubbers can also be used. See col. 8, line 50-65. Davis does not teach the composition to be a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Davis does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns. Takahashi teaches a metal wire coated with a heat-treated adhesive layer at col. 7, lines 22-33 to reinforce rubber materials. Takahashi also provides motivation to vary adhesive thickness due to a heat treatment at col. 9, lines 4-52. It would have been obvious to one of

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ordinary skill in the art to produce a thickness between a range of 5 to 25 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength.

4. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,480,066 to Davis et al. in view of USPN 4,891,267 to Takahashi et al. and USPN 4,478,777 to Hoppie et al and further in view of USPN 4,331,496 to Orndorff, Jr.

5. Davis teaches a rubber composition having adhesion of rubber to reinforcing metal such as brass-plated wire (col. 3, lines 24-55). At col. 3, lines 32-36, the rubber is vulcanized (equivalent to a heat treated adhesive). Davis teaches the adhesive comprising chlorinated rubber and chlorosulfonated polyethylene rubber to provide flexible and strong thermally stable bonds between rubber and metal. See col. 3, line 52-col. 4, line 11. A blend of chlorinated rubbers can also be used. See col. 8, line 50-65. Davis does not teach the composition to be a shrinkage control material, however, since the same materials are employed, they are considered equivalents.

Davis does not teach a specific thickness of adhesive within 5 to 25 microns or 12-22 microns. Takahashi teaches a metal wire coated with a heat-treated adhesive layer at col. 7, lines 22-33 to reinforce rubber materials. Takahashi also provides motivation to vary adhesive thickness due to a heat treatment at col. 9, lines 4-52. It would have been obvious to one of ordinary skill in the art to produce a thickness between a range of 5 to 25 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. The thickness effects the adhesion strength.

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6. Davis does not teach an elastomeric extruded layer around the periphery of a shrinkage control material. Orndorff provides a bearing assembly having a brass wire core surrounded by an elastomeric extruded layer adjacent to vulcanized rubber. See col. 4, line 35-65. Orndorff explains elastomeric material may be extruded. See also col. 4, lines 10-15. It would have been obvious to one of ordinary skill in the art to modify the wire of Davis to include an elastomeric extruded periphery because Orndorff teaches these materials and structures are conventional reinforcements for brass and provides additional strength.

Response to Arguments

7. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-8329.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

December 15, 2003


ELIZABETH MILWAY
PRIMARY EXAMINER